[0043]   In one embodiment, the recovery procedures attempt 512 a first-level solution in response to the diagnosed error. In general, the first-level solution attempts to recover from the error by performing minor repairs on the DVR 110. In an alternative embodiment, the recovery procedures do not attempt the first-level solution and instead immediately attempt 514 the second-level solution described in more detail below.

[0044]   The particular first-level solution attempted by the recovery procedures depend upon the embodiment of the DVR 110 and/or the diagnosed error. In one embodiment, the DVR 110 receives the first-level solution from the diagnostic server 120. If a file in the system area 312 is corrupt, a possible first-level solution performed by the recovery procedures is to replace the corrupt file with a clean copy of the file from the data modules 320 in the error recovery area 314. If the file system is corrupt, a possible first-level solution is to rebuild the file system. If files are abnormally fragmented, a possible first-level solution is to defragment the files. Different embodiments of the DVR 110 may perform 512 different or multiple first-level solutions in response to detected or diagnosed errors. Certain diagnosed errors may not have first-level solutions, in which case the recovery procedures may skip step 512. In addition, in one embodiment there are default first-level solutions that are performed for one or more different or undiagnosed errors.

[0045]   If the first-level solution is successful 420A (this step is identified with reference numeral "420A" because it is essentially a substep of step 420 illustrated in FIG. 4), then the DVR 110 preferably resumes normal operation 414. Otherwise, the

recovery procedures preferably attempt 514 a second-level solution. In general, a second-level solution is a major repair of the DVR 110.

[0046]   The specific second-level solution depends upon the embodiment of the DVR 110 and/or the diagnosed error. In one embodiment, a second-level solution is to boot the DVR utilizing the backup copies of the program modules stored in the data modules 320 in the error recovery area 314. Another second-level solution is to activate the network recovery module 221 in the nonvolatile memory 219. The network recovery module 221 preferably contacts the remote server and downloads a small executable program module. The network recovery module 221 preferably reboots the DVR 110 and executes this program module, which then causes the DVR to reformat the media storage 212, rebuild the file system, and download replacement program modules from the software server 122 or another remote server. In another embodiment, the second-level solution is to reformat the content 310 and/or system 312 areas and then install the replacement copies of the program modules from the data modules 320 in the error recovery area 314.

[0047]   Different embodiments of the DVR 110 may attempt different or additional second-level solutions. In addition, embodiments of the DVR 110 may attempt two or more of the second-level solutions. For example, one embodiment of the DVR 110 first attempts to boot the DVR from the backup copy of the program modules in the error recovery area 314 and activates the network recovery module 221 only if the backup copy fails to cure the error. If the second-level solution is successful 420B, then the DVR 110 preferably resumes normal operation 414. Otherwise, the DVR 110 preferably either continues operation, if possible, or halts 424.

[0048] The above description is included to illustrate the operation of the preferred embodiments and is not meant to limit the scope of the invention. The scope of the invention is to be limited only by the following claims. From the above discussion, many variations will be apparent to one skilled in the relevant art that would yet be encompassed by the spirit and scope of the invention.